

swims more readily than it walks. Moving always in the same direction, it is constantly striking against the same point of the vessel in which it is kept. In general it scarcely survives the operation twenty-four hours.

When one of the lobes of the supra-œsophageal ganglion of a *Dyticus* has been removed, the power of walking is diminished, but the animal still swims with great celerity. In either case the insect always moves towards the uninjured side, so that it describes interminable circles in the same direction. Thus, when deprived of one of its lobes, the *Dyticus* loses the power of directing itself towards the side of this lobe, from which we may conclude that each lobe presides in the direction of its side.

2. *Total or partial removal of the sub-œsophageal ganglion.*—When this ganglion is entirely removed, the *Dytici* are totally incapable of swimming or walking. This is not owing to the paralysis of any of the legs, for each member moves spontaneously and draws back when pinched. The ambulatory feet are even seen to move, as if to walk, and the natatory feet as if to swim. But the insect only moves accidentally; it neither walks nor swims.

The exciting power of its motions, and that by which they are coordinated, cease with the removal of the sub-œsophageal ganglion. The insect raises itself on its feet, it advances an ambulatory foot with a natatory one, or even the natatory feet of one side, and this disagreement produces no result.

These observations lead to the following results:—

The supra- and sub-œsophageal ganglia and the peduncles which unite them, represent the brain of the *Dyticus*, and exert an incontestable influence upon locomotion.

The upper part of the brain, placed above the œsophagus, is the seat of volition and of the direction of the movements.

The lower part is the seat of the exciting cause and of the coordinating power.—*Comptes Rendus*, 6 April 1857, p. 721.

*On Spiochætopterus, a new genus of Annelides from the Coast of Norway.* By M. Sars.

#### SPIOCHÆTOPTERUS, Sars.

Corpus filiforme, antice truncatum ibique infra et ad latera labium formans carnosum spatulatum seu infundibuliforme, in cujus fundo os. Lobus capitalis supra os, parvus, rotundatus, oculis nullis. Cirri tentaculares duo longissimi et sulco longitudinali ornati. Segmenta novem antica corporis depressa, brevia, mamillis pedibus conicis seu pyramidalibus solummodo dorsalibus (ventralibus carentibus), setis instructis capillaribus apice subhastato-acuto non in fasciculum congestis, sed seriem transversam seu ad longitudinem mamillarum formantibus, segmentum quartum etiam seta validissima apice oblique truncato et denticulo ornato.

Segmentum decimum et undecimum subteretia, longissima, pinnis seu mamillis pedibus foliaceis ornata, scilicet una dorsali fasciculum

setarum capillarium non exsertilium includente et duabus ventralibus absque setis.

Segmentum duodecimum et omnia sequentia (quorum numerus fere 130–140) subteretia, anteriora longa sensimque posterius breviora, pinna dorsali conica vel subcylindrica apice globoso et fasciculo setarum capillarium instructa, ventrali duplici ut in segmento 10mo et 11mo, et absque setis.

Animal in tubo inclusum erecto, longissimo, cylindrico, pergamentaceo, tenuissime transverse sulcato seu annulato, extremitate inferiore affixo.

*Spiochætopterus typicus*, Sars. Unica species (pp. 7–8).

The remarkable genus *Chætopterus*, Cuvier, has hitherto occupied an isolated position amongst the other Annelides. Audouin and Milne-Edwards in 1833 established it as a distinct family (*Chætopterea*), and their example has been followed by all subsequent authors. But there has always been a doubt as to its true place in the system and its affinities with other Annelides. The above-mentioned French zoologists even thought that it would be most natural to form a distinct order for this animal, but they placed it, evidently incorrectly, between *Peripatus* and *Arenicola*. Grube (in 1850) was not more fortunate in placing it between *Siphonostomum* and *Arenicola*. Lastly, R. Leuckart (in 1849) was the only person who prognosticated the family to which the genus *Chætopterus* should belong, namely the *Ariciea*.

This new animal forms a remarkable connexion between *Chætopterus* and *Spio*. It has only been taken at Helle, in the neighbourhood of Manger, near Bergen, in mud at a depth of 40–50 fathoms in company with *Virgularia mirabilis*, Müll.—*Fauna littoralis Norvegiæ*, Second part, 1856, pp. 1–8.

*On the Sea Sawdust of the Pacific.* By JOHN DENIS MACDONALD, Esq., Assistant Surgeon R.N.

The Author gives a description of the remarkable little Alga so frequently met with in the South Pacific, scattered over the surface of the water in broad streaks and patches of a pale yellowish-brown tint, and which is known under the name of "Sea Saw-dust."

After adverting to the occurrence of a similar phænomenon in other parts of the globe, and citing the account given of the *Trichodesmium erythræum* of the Red Sea by MM. Evernor Dupont and Montagne, together with a description extracted from the 'Colombo Herald' of May 14, 1844, of what was obviously an example of a vegetable scum of the same kind occurring on the sea off Ceylon, the author remarks, that in the instances met with by himself he did not recognize the fœtid odour so generally and pointedly spoken of in the accounts of others. He then states the results of his own observation as follows:—

"It was rather difficult at first to determine whether our species is to be referred to the Oscillatoridæ or the Confervidæ. In the latter,